



PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2001078748 A**(43) Date of publication of application: **27.03.01**

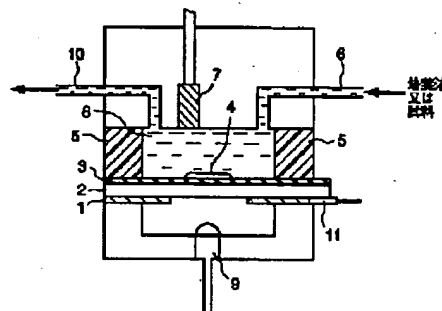
(51) Int. Cl.
C12M 1/34
C12N 11/14
C12Q 1/00

(21) Application number: **11254432**(22) Date of filing: **08.09.99**(71) Applicant: **JAPAN ADVANCED INST OF
SCIENCE & TECHNOLOGY
HOKURIKU**(72) Inventor: **TAMIYA EIICHI****(54) BIOSENSOR FOR MEASURING INFLUENCE ON
METABOLIC ACTIVITY OF CELL**change of the light electromotive force before and after
adding the substance to be examined.**(57) Abstract:**

COPYRIGHT: (C)2001,JPO

PROBLEM TO BE SOLVED: To provide an apparatus for
measuring metabolic activity of a cell.

SOLUTION: This biosensor is used for measuring
influence of a substance to be examined on metabolic
activity of a cell and the biosensor is equipped with a
semiconductor layer 2, an insulating layer 3 laminated
on a main face of the semiconductor 2, a live cell or a
live cell group 4 which comes into contact with the
insulating layer 3 and is arranged thereon, MIS
structure comprising a culture solution layer 8 which
immerses the live cell or the live cell group 4 and
comes into contact with the insulating layer 3, a bias
electrode means for applying bias voltage to the MIS
structure, a light source means for irradiating
controlled light to the MIS structure in order to
generate light electromotive force in the MIS structure,
a means for adding the substance to be examined to the
culture solution layer 8 and a means for monitoring the
change of light generated in the MIS structure, and the
biosensor measures influence of the substance to be
examined on metabolic activity of the cell from the



BEST AVAILABLE COPY